



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/663,866	09/15/2003	Deepak Ayyagari	8371-156	3126
46404	7590	06/01/2007		
MARGER JOHNSON & MCCOLLOM, P.C. 210 SW MORRISON STREET, SUITE 400 PORTLAND, OR 97204			EXAMINER WU, JIANYE	
			ART UNIT	PAPER NUMBER
			2616	
			MAIL DATE	DELIVERY MODE
			06/01/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/663,866	Applicant(s) Ayyagari, Deepak	
	Examiner Jianye Wu	Art Unit 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on ____ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) ✓ | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) ✓
Paper No(s)/Mail Date <u>7/15/04</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 11-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Andrew S. Tanenbaum, "Computer Networks", Third Edition, 1996 (hereinafter **Tanenbaum**).

For **Claim 11**, Tanenbaum discloses a method of classifying data packets in a communication system, the method comprising: analyzing a set of parameters (QoS parameters defined in Fig. 6-2, Page 482) for an incoming packet, wherein the set of parameters analyzed depends upon a type of service access point from which the data packet came; if the set of parameters in the incoming packet match a predefined set (minimum acceptable values, line 8-13, 3rd paragraph of Page 483) of parameters associated with connection, applying at least one rule to the packet (*option negotiation*, first line of 5th paragraph of Page, or rules described in 3rd paragraph of Page 483); associating a connection identifier for the predefined set of parameters with the packet (combination of 3rd and 4th paragraph, Page 483, where several rules are defined based on the values of QoS parameters).

As to **claim 12**, Tanenbaum discloses the method of claim 11, applying at least one rule to the packet further comprises applying a plurality of rules to the packet base on rule priority (4rd paragraph of Page 483, where several rules are applied according to importance priority of rules).

As to **claim 13**, Tanenbaum discloses the method of claim 11, the method comprising transmitting the set of parameters to a connection manager if the set of parameters do not match a predefined set of parameters (4th paragraph of Page 483, particularly lines 1-4).

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

2. **Claims 1-5** are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanenbaum in view of Raphaeli et al (US 20030103521, hereinafter **Raphaeli**).

For **claim 1**, Tanenbaum discloses a method of converting application data to transport data in a communication system the method comprising:

receiving application data from an application in a device through a service access point (SOCKET, Fig. 6-6; or Lines 1-2 of first paragraph of Section 6.2.1, Page 489, where a service point is considered as one of many processes), wherein application data may be connection-oriented (*connection-oriented*, first line of 3rd paragraph in Section 6.1.3, Page 483), or connectionless (*datagram*, line 5 of Page 484; or lines 9-10 of Page 480);

analyzing a connection type (e.g., connection-oriented or connectionless) and a connection specification to determine if a connection exists for the application data (Lines 3-4 of Page 487; socket creation fails if a connection exists);

if a connection exists for the application data (FIG. 6-8, explained in Section 6.2.1 starting from Page 489 to 490), mapping (Fig. 6.1, Page 480) the application data into transport data (TPFU, Fig. 6-1); and

transmitting the transport data across the communication system (Fig. 6-8, Page 490).

Tanenbaum **is silent on** the communication system is a power line communication system.

Raphaeli teaches a power line communication system (FIG. 1, explained in [0008]) wherein a method of converting application data to transport data (application layer, [0005]) is described.

Tanenbaum teaches the general network model which applies to any communication system, while Raphaeli discloses a specific communication system known as the power line communication system. It is nature to combine them together to give a full description of the power line communication system.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine Tanenbaum with due Raphaeli to obvious industry expedient.

As to **claim 2**, Tanenbaum and Raphaeli in combination disclose the method of claim 1, Tanenbaum further teaches the method comprising automatically establishing a connection if none exists (FIG. 6-8, Page 490), comprising:

generating a connection specification based upon the application data and the service access point (TSAP, FIG. 6-8, Page 490); and establishing a connection based upon the connection specification (FIG. 6-8, explained in Section 6.2.1 from Page 489-490); and

mapping the application data into transport data for that connection (Fig. 6.1, Page 480).

As to **claim 3**, Tanenbaum and Raphaeli in combination disclose the method of claim 1, Tanenbaum further teaches wherein receiving application data from an application further comprises receiving connection-oriented application data from the application (lines 1-2 of second paragraph, Page 480).

As to **claim 4**, Tanenbaum and Raphaeli in combination disclose the method of claim 1, Tanenbaum further teaches wherein receiving application data further

comprises receiving connectionless application data from the application (lines 1-2 of second paragraph, Page 480).

As to **claim 5**, Tanenbaum and Raphaeli in combination disclose the method of claim 1, Tanenbaum further teaches wherein analyzing a connection type (lines 1-2 of second paragraph, Page 480) and a connection specification further comprising classifying the application data (second paragraph, Page 577 where various application protocols and different applications such as e-mail and World Wide Web are discussed).

2. **Claims 6-10** are rejected under 35 U.S.C. 103(a) as being unpatentable over Andrew in view of W. Richard Stevens, "UNIX Network Programming", 1990, hereinafter **Stevens**.

For **Claim 6**, Tanenbaum discloses a method of transmitting data on a network, the method comprising:

receiving an incoming data packet from an application on a device at one of a plurality of service access points (SOCKET, Fig. 6-6; or Lines 1-2 of first paragraph of Section 6.2.1, Page 489, where a service point is considered as one of many processes);

associating the packet with a connection (CONNECT, Fig. 6-6 of Page 487).

routing the packet to the connection (Lines 1-3 of first paragraph of Section 5.2, Page 345); and

transmitting the data (Fig. 6-8, Page 490).

Tanenbaum does not explicitly teach classifying the data packet according to the service access point and at least one rule.

Stevens teaches disclosing classifying the data packet according to the service access point (Lines 7-12, Page 268; socket type defines as one of SOCK_STREAM, SOCK_DGRAM, and etc.) and at least one rule (last 3 lines of Page 268; *protocol* argument of socket is specified to use a specific protocol).

Stevens simply teaches details of the socket that is disclosed by Tanenbaum, therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine Tanenbaum with Stevens to classify the packet according to service point and process the packet following at least one rule due to obvious industry expedient.

As to **claim 7**, Tanenbaum and Stevens in combination disclose the method of claim 6, Tanenbaum further teaches the method comprising fragmenting the packet into smaller packets as needed based upon the packet size (Fig. 6-4, Page 485).

As to **claim 8**, Tanenbaum and Stevens in combination disclose the method of claim 6, the method comprising fragmenting the packet into smaller packets as needed (Fig. 6-38 in page 548).

Tanenbaum **does not** explicitly teach that the fragmenting depends upon the bandwidth of the connection.

However, packet fragmentation and its relationship to bandwidth have major impact on the efficiency and quality of service [such as delay] of network operation.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to fragmenting depends upon the bandwidth of the connection for the benefit of efficiency and quality of service enhancement of network operation.

As to **claim 9**, Tanenbaum and Stevens in combination disclose the method of claim 6, Tanenbaum teaches classifying the data packet further comprising determining if a connection exists for the packet, and requesting a connection if a connection does not exist (Lines 3-4 of Page 487; socket creation fails if a connection exists).

As to **claim 10**, Tanenbaum and Stevens in combination disclose the method of claim 6, Tanenbaum further teaches classifying the data packet further comprising analyzing a set of matching parameters (Fig. 5-24, parameters of leaky bucket for congest control, Page 380) to determine if the parameters match those of a rule (3rd paragraph of Page 483), and if the parameters do match, associating the packets with a connection identified by a connection identifier in the rule if the parameters do match (subsection for "The leaky bucket Algorithm" in page 380) packets the do not satisfy leaky bucket algorithm will be dropped and no longer associate with the connection).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jianye Wu whose telephone number is (571)270-1665. The examiner can normally be reached on Monday to Friday, 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on (571)272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Art Unit: 2616

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jianye Wu

JY

Seema S. Rao
SEEMA S. RAO 5/29/07
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600